

INDEX TO SURGICAL PROGRESS.

GENERAL SURGERY.

I. Antitoxin Treatment of Tetanus. By DR. HABERLING (Rostock). After two successful personal experiences with antitoxin, and from a study of forty-two published cases thus treated, the author is of the opinion that inaccuracies and meagre details as to variety of the antitoxin and the quantity employed afford opportunities for but approximate conclusions.

In the first instance, we must bear in mind the difference in the prognosis of cases presenting tetanus with an incubation of more or less than ten days. Excluding one of doubtful origin among the forty-four cases subjected to Behring's antitoxin treatment, twenty-four were cured, nineteen died, equivalent to 55.8 per cent. cure and 44.2 per cent. mortality. Of twenty-three cases with an incubation inside of ten days' acute tetanus, but ten were cured, or 43.5 per cent. cure and 56.5 per cent. mortality; whereas among the remaining cases of longer incubation than ten days, but six deaths occurred,—*i.e.*, a mortality of but 30 per cent. In fourteen instances the suggestion of Behring and Knorr to inject the tetanus serum inside of thirty-six hours was carried out. Ten of these were acute cases, and but four were cured.

The quantity used varied from two and five-tenths grammes of dried substance (125 U. I.) to two by twenty-five cubic centimetres of fluid serum (500 U. I.). Two observers report good results from repeated injections. The severe symptoms abated gradually, never suddenly. Among unpleasant effects recorded were skin eruptions in great variety; erythema, eczema, and exanthematous lesions; elevation of temperature, failing pulse, collapse, diarrhoeas, but never any harmful effects upon any of the organs. In view of a mortality

of but 43 per cent. in the acute cases, a further trial of the injections in larger doses is commendable, supplemented, however, by narcotics, to which the author in part attributes the cure in his cases. The treatment of the wound must not be neglected.

The animal experiments of Knorr having proven that by the increase of the quantity of antitoxin injected the possibility of a cure is enhanced, we should use larger doses in acute cases the later they are subjected to treatment. Subcutaneous injections are the best. Intravenous do not act better. Author does not hold a good opinion of intracerebellar injection, and in concluding highly recommends the injections of large quantities, as practised in America, and thinks that the small quantities used heretofore alone account for the relatively poor results.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 2.

II. Operative Treatment of Aneurisms. By DR. HOFFMANN (Breslau). This procedure, practised by Mikulicz in two cases of aneurism, is a modification of Antyllus's operation, executed in two sittings.

The first step consists in ligating the vessel, according to Anel or Hunter. If the aneurism does not shrink very soon, and no local wound infection supervenes, the sac is split, the clots are turned out, and the wound is sutured with silk, and a compressing bandage is applied over the dressing; the after treatment comprises the wearing of an elastic bandage for several months.

Author claims as advantages for this method, a healing by primary union, less sacrifice of accompanying vessels, and therefore diminished chances of gangrene. Both steps may be performed with the aid of local anæsthesia. To guard against infection of the skin the sac should be incised by a route where the resistance of the overlying skin has not been impaired by the pressure of the aneurism.

The one case operated was a ruptured aneurism of the popliteal artery, the other case was a traumatic aneurism of the femoral.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 2.

MARTIN W. WARE (New York).

HEAD AND NECK.

I. Operative Treatment of Severe Occipital Neuralgia. By PROF. F. KRAUSE (Altona). Three cases of severe occipital neuralgia, extending over the areas innervated by the plexus formed by the posterior divisions of the occipitalis major, minor, tertius, and auricularis magnus, were subjected to operation. The attacks presented features similar to those of trigeminal neuralgia. Mastoid sclerosis, cervical spondylitis, myositis, neurasthenia, and hysteria have to be considered in differential diagnosis.

Dissections by Krause have shown a great variability in the formation of the plexus, its distribution, and the point of exit of the nerves on the surface, differing even in the same subject on both sides. This led to the choice of an incision covering all possible anomalies. Author makes a curved incision, starting from the external occipital protuberance, passing horizontally outward in a slight curve two centimetres beneath the mastoid process, and thence along the posterior border of the sterno-mastoid; thus the cicatrix is covered in greater part by the hairy scalp. Incision at first is only to penetrate to the subcutaneous tissue in order to avoid injury to the nerves, which are subsequently traced to their exit from the foramina and divided, though the ganglia of the two occipital nerves lying outside of the spinal canal were not resected. Neurorrhexis (Thierseh) is dangerous, as traction may injure the spinal cord. The only hæmorrhage that is annoying is that from a plexus of veins situated about the vertebræ. The occipital is easily ligated, and the relatively near vertebral artery is protected by the arches. In following these nerves the spinal accessory may have to be divided, and the proximity of the vital nerves and vessels of the neck calls for great caution. The division of anterior motor branches left the muscles unimpaired, owing to their free, supplementary innervation by a free anastomosis. The wound was always drained at two angles. In a woman of fifty-four years, and a man of forty-two, there were no return of symptoms one and a half years after operation. In the instance of a girl, thirty-

three years of age, neurasthenia is held responsible for the failure. Only after palliative measures have failed is operation indicated.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 2.

II. Goitre Operations at the Heidelberg Clinic, 1888-98. By DR. A. SCHILLER (Heidelberg). This summary embraces 869 goitres, of which thirty-three were malignant, six Basedow, fourteen acute inflammation of the thyroid, and the remainder simple goitres. The special predilection of goitres in the female sex and at puberty is again demonstrated, and in addition the greater frequency of their appearance during the summer months.

As for therapeutic measures, thyroïdin is regarded as a more efficient agent than iodine. Two hundred and thirty-six benign goitres were operated, two by puncture and iodine injection combined, sixty-four enucleations (Socin), 174 extirpations, and one tracheotomy. Puncture, injection, incision, and drainage, now obsolete, are replaced by Socin's method.

Narcosis.—Chloroform-morphine most often used. Incision varied greatly, the most common being a curved incision along the border of the sterno-mastoid. The time of cure averaged eleven days for enucleations, and fourteen days for strumectomies. Drainage was always resorted to for three days. The mortality embraced four deaths from pneumonia, one by poisoning (?), and one case of chloroform death in which a persistent thymus was found.

The post-operative complications encountered were secondary hæmorrhages, temporary laryngeal disturbances due to contusions, hæmorrhages and infiltrations about the nerve. Tetany occurred four times where the removal of the gland was extensive, and twice it was associated with myxœdema. In one instance an intra-abdominal transplantation of a freshly removed adenomatous thyroid failed to cure, but with the recurrence of the thyroid growth a cure set in. The simple goitres recurred in 20 per cent. of the cases.

The strumites were, with the exception of one case, secondary infections of pre-existing goitres, three infected by puncture, two were metastatic, and the remainder were unaccounted for. These

cases too were subjected to extirpation, unless the poor general condition permitted only of puncture and drainage.

The four cases of Basedow were all in females of a neuropathic taint. For the relief of these ligation of the thyroid arteries alone was resorted to.

The malignant growths, more common between the ages of fifty and sixty, were most frequently represented by sarcomata, and merely in one-half the cases was the diagnosis made. The difficulty of strumectomy in these cases is gathered from the necessity of rescuing the internal jugular vein five times, and often extensive resections of the muscles had to be resorted to in extirpating the glands. Tracheotomy was thrice performed. The mortality was 15 per cent. Five cases were free from recurrences up to four and a half years; fifteen months may be accorded as the average viability after recurrences. Better results are only to be expected from early diagnosis. Contraindications to operation are metastases associated with venous thrombosis and absence of the carotid pulse: on the other hand, if the tumor is immovable, adherent to vessels and larynx, and the carotid pulse still persist, there is no contraindication.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 3.

MARTIN W. WARE (New York).

ABDOMEN.

I. Perfected Gastro-entero-anastomosis. By PROF. LÜCKE. Kausch has demonstrated that bile was found in the stomach in all the cases of gastro-entero-anastomosis which he examined in the Breslau Clinic. The author, therefore, believes the pancreatic juice is also present in the stomachs of these cases. It is contended that even though the presence of these secretions may not be harmful, yet a method which permits this can scarcely be called ideal. The subject has not been considered for a sufficient length of time to demonstrate the entire harmlessness of their presence.

On examining the various procedures in regard to this point, it is found that that of Doyen is the most rational. This author combines gastro-enterostomy with lateral intestinal anastomosis and the

division of the afferent loop above the site of the latter procedure, the divided ends being closed. Yet even in this method bile and pancreatic juice propelled towards the stomach by the peristalsis of the afferent loop must suddenly meet the gastric contents passing in the opposite direction. Lileke believes that this may render the evacuation of the stomach difficult. Gastric contents may even pass through the lateral intestinal fistula into the afferent loop.

It is proposed to avoid both complications by applying the lateral intestinal anastomosis to both the loops in the direction of the peristaltic wave. The idea is illustrated by several schematic drawings. In addition, the division of the afferent loop (Doyen's) or resection of this portion is advocated. In cases in which the posterior stomach wall is readily accessible and in which elimination or resection of a portion of the afferent jejunal loop is intended, the author prefers posterior gastro-enterostomy; in other cases anterior gastro-enterostomy. In the former case care must be taken that the intestinal anastomosis is at least twenty centimetres distant from the gastro-intestinal fistula. In addition, the afferent loop must lie for some distance parallel with the efferent loop, that is, towards the pelvis. To attain this the two loops may be sutured to each other for a distance of four centimetres above the anastomosis. In anterior gastro-enterostomy resection or elimination cannot be performed.

This procedure has not as yet been employed upon the human subject. It is not available in cases in which a rapid operation is essential; nor in those in which the chronic function of the stomach is unimportant, and in which the motor function only is to be improved, as in carcinoma of the pylorus.

It is indicated in all cases in which the posterior stomach-wall can be readily reached and in which the patient's condition warrants the taking of additional time. Atony of the wall of the stomach associated with stenosis of the pylorus should give good results with this method.—*Wiener klinische Wochenschrift*, 1899, xx.

II. Technique of Gastro-enterostomy. By DR. MAX .
RUTKOWSKI (Cracow). To be really practical, a given method must

in the first place be uncomplicated, and in the second place must offer as little real injury to the patient as possible. Furthermore, it must permit direct reliable outflow of the stomach contents into the efferent bowel, and the possibility of forced nourishment immediately after the operation. The author believes he has answered all these demands by the following procedure.

He first performs gastro-enterostomy after Wölfler's first method. A few centimetres above the gastro-intestinal fistula the stomach-wall is incised. Through this opening a drainage-tube is introduced into the stomach, and through the gastro-intestinal fistula into the efferent jejunal loop. The stomach is sutured around the tube by either Witzel's or Kader's method. The tube is removed in ten days. The resulting fistula closes in about one week. The procedure thus combines Wölfler's gastro-enterostomy with Witzel's or Kader's temporary gastrostomy for the purpose of introducing a drainage-tube into the efferent jejunal loop. This additional procedure is free from danger, it does not take longer than five minutes, and does not complicate in any way the main operation.

By this means the stomach is left at rest, the patient being sufficiently nourished through the drainage-tube. The gastric juice easily flows along-side the tube into the bowel. In addition the tube fixes the efferent loop in its proper position and prevents kinking or the formation of a spur.

The method has been used in three cases. (1) J. W., fifty-three years of age, suffering from carcinoma of the pylorus. June 22, 1899, the stomach was resected. On account of the extent of the resection the duodenum could not be fastened into the gastric wound. Gastro-enterostomy after von Hacker and temporary gastrostomy after Kader were performed, both operations taking twenty minutes. On the tenth day the tube was removed. Four days later the resulting fistula had completely closed.

(2) M. S., twenty-four years of age, suffering from ulcer of the pylorus and myocarditis. July 7, 1899, Wölfler's and Witzel's methods were employed, the operation occupying half an hour. The

tube was removed on the tenth day. The fistula was closed by the seventh day following.

(3) M. K., thirty-four years of age, suffering from carcinoma of the pylorus, with marked cachexia. July 8, 1899, Wölfler's and Witzel's methods were employed, the operation taking thirty minutes. The tube was removed on the tenth day, and the resulting fistula was completely healed seven days later.

The post-operative course in all three cases was perfectly satisfactory. Strength increased rapidly. No vomiting occurred at any time.—*Centralblatt für Chirurgie*, 1899, xxxix, 1057-1059.

RUSSELL S. FOWLER (New York).

GENITO-URINARY ORGANS.

I. Operations for Glandular Hypospadias. By DR. WATTEN (Lodz, Poland). Formerly operations for the cure of glandular hypospadias were rarely successful, every failure leaving the parts in a less favorable condition for future attempts. Success depends primarily upon the exactness and solidity of the suturing. The new method proposed by Carl Beck (*New York Medical Journal*, January 29, 1898), which did not aim at the formation of a new urethra, but rather the prolongation of the existing one to the normal situation, was a great advance. A good result can be secured easily and reliably by the method which was recently proposed almost simultaneously by von Hacker (*Beiträge zur klin. Chir.*, Vol. xxii, Fasc. 1) and Bardenhauer (*Cent. f. Chir.*, 1898, xlv). Beck had already applied this method. It consists in freeing the lower portion of the urethra and pulling it through a canal which is formed in the glans. Bardenhauer uses a trocar for the formation of this canal; von Hacker and Beck use the knife. The method is certainly an excellent one for the treatment of hypospadias of the glans. Nevertheless, the author does not agree with König that "it is preferable to all other methods hitherto recommended." Two conditions are necessary for its performance,—that the furrow in the glans is not too deep and that the urethra can be freed and sufficiently

stretched. When either of these conditions is absent the operation may fail, as shown by the following case.

A boy of eight years, suffering from enuresis nocturna, was subjected to rather a remarkable cure by the man to whom he was apprenticed. A string was tied around the middle of the penis and left on over night. In the morning it was found impossible to remove this thread, so it was left on until it finally fell off spontaneously. In the meantime, an opening resulted close behind the thread, through which urine dribbled. About two months later the boy was brought to Watten. Examination revealed that the peripheral portion of the urethra ended centrally and was entirely impervious. At the point where the thread had been lying there was a broad cartilaginous thickening with a deep furrow in its centre. The opening on the inferior surface of the penis was the size of a pin's head. It led into a small fistulous tract. In the operation for this condition a piece of the urethra was resected, the remaining portion, between the external orifice and the suture line, amounting to upwards of one centimetre. Evidently in this case, and in similar cases, the von Hacker-Bardenhauer method is not applicable. The author used Thiersch's method. The result was an entire failure. After an interval of several weeks the following method was used with success.

The skin incisions are the same as in the von Hacker-Bardenhauer procedure, a vertical incision from the external orifice of the urethra and along its course, and two lateral incisions separating the skin of the penis from the glans. The lateral skin flaps are dissected back from the urethra. The second step consists in the formation of a flap of mucous membrane from the inferior surface of the glans. Beginning at the tip of the glans the mucous membrane is incised on each lateral aspect and loosened. This flap is made as broad as possible, and one or two millimetres in thickness. When the base of the glans is reached the urethra is separated from the lower surface of the penis for the entire length of the skin incision. In this manner a flap of glans tissue is formed, lined with mucous membrane, the urethra forming the pedicle of the flap. This flap is to be employed in lining the new urethra. The denuded surface of the glans is deepened longi-

tudinally in the middle line, and in the furrow thus formed is placed the flap of mucous membrane. Two or three sutures fix this at the apex of the glans. A small Nèlaton's catheter is now introduced into the urethra. The final step consists in the application of the sutures. Care must be taken that the distal end of the original urethra lies within the denuded area of glans substance. This is easily permitted by the previous freeing of the urethra. One or two sutures suffice to retain it in position.

By this method, the author claims that a urethra is formed which is lined throughout with mucous membrane, with the possible exception of a small place on the inferior surface at the site of the former orifice. The author considers that his method strengthens a point which is generally the weakest,—*i.e.*, the corona glandis. He advocates it for cases in which the von Hacker-Bardenhauer method is for some reason inapplicable.—*Centralblatt für Chirurgie*, 1899, xxxviii, 1036-1039.

[In this article the author should have given the credit of the original procedure to Carl Beck and not to either von Hacker or Bardenhauer.—R. S. F.]

RUSSELL S. FOWLER (New York).

EXTREMITIES.

I. Tuberculous Osteomyelitis of the Diaphysis of Long Bones. By DR. H. KUTTNER (Tübingen). This most rare form of bone tuberculosis is encountered as a circumscribed or diffuse inflammation of the marrow of the diaphysis, the epiphysis being intact, but occasionally the primary process of the shaft invades the epiphysis also. The sequestra are small; tubercular abscesses also occur, and the spina ventosa common to the short bones is more frequent in the radius, ulna, and fibula than in the humerus and tibia.

Clinically this variety of osteomyelitis is confined to children under six years of age already afflicted with other tuberculous lesions. An exceptional instance in which the osteomyelitis constituted the primary invasion is detailed by the author. Diagnosis can be but

tentative as in this case. The finding of small sequestra, very carious, first aroused suspicion. The course of the disease coincides with that of subacute infectious osteomyelitis. Syphilitic osteomyelitis is excluded by its lack of acute manifestations and but rarely forming fistula or going on to necrosis.

Prognosis is unfavorable because of the tubercular nature of the lesion, and because the patients have, as a rule, multiple lesions. A localized process offers a more favorable prognosis than the diffuse variety.

Therapeutic indications are the same as in infectious osteomyelitis, and the preservation of the periosteum is of the greatest importance.

The secondary tuberculous osteomyelitis is an infection per continuity from the epiphysis or the synovial membrane. Two varieties, caries cariosa exclusively confined to the humerus, and a progressively infiltrating tuberculosis, are both described by König. The second variety does not cover the ordinary infection extending to the diaphysis contiguous to the epiphysis, but refers to an extensive involvement of the entire marrow of the shaft. In five instances recorded, four times amputation was performed. All of these cases were between forty and fifty years of age.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 2.

II. The Operative Treatment of the Musculo-Spiral Nerve injured in Fractures of the Humerus. By DR. G. RIETIUS (Leipzig). In the clinic at Leipzig, from 1860 to 1898, amongst 319 cases of fracture of the humerus seventeen cases (4.1 per cent.) of musculo-spiral paralysis were encountered, and in nine instances the fracture was situated at the middle of the humerus. In comparison, the statistics of Bruns offer a collection of 866 fractures of the humerus, with seventy-three paralyses associated with fracture of the mid-humerus in more than 50 per cent. of the cases.

Aside from the location of the fracture the nature of the violence is accountable for nerve injury, and both primary and secondary musculo-spiral paralysis ensue when the violence is not merely spent in causing fractures but aids in the dislocation of the fragments; there-

fore torsion fractures and fractures with great displacement are more frequently met with in musculo-spiral paralysis.

Nerve palsies may be either primary or secondary. The former occur immediately after the injury, and the latter at remote periods. In the first instance the continuity of the nerve may be intact, its fibres merely contused and lacerated in part by the fragments or compressed between the fragments, or the continuity of the nerve may be completely severed.

Accordingly the symptoms varied in the eight cases of primary paralysis from transient paresis to complete abeyance of the motor sensory function of the nerve; of the latter examples, four times the continuity was preserved, and three times the nerve was severed. Four cases recovered spontaneously. In four other instances operation was resorted to in order to free the nerve from the callus; once the nerve was sutured with complete restitution in nine months; once five centimetres of the humerus were resected to approximate the nerve separated seven centimetres with complete recovery in two years; to accomplish this same end the humerus was displaced laterally, and here complete recovery also set in after one year.

The motor paralysis, as a rule, was a typical drop-wrist, the sensory disturbances, however, were very variable. Thus paræsthesia and anæsthesia set in later, and in no instance did the anæsthesia extend over the entire areas innervated by the musculo-spiral, thus speaking for a collateral sensory nerve supply. This *sensibilité supplée* (Letievant) accounts for a seeming restitution of the nerve function if estimated by an apparent earlier return of sensation. In two instances a total area of anæsthesia existed between the first and second metacarpal bones; this Letievant called the punctum maximum. No vasomotor disturbances are recorded. The exact diagnosis of the nature of the nerve injury is impossible, as all degrees of injury may provoke the same symptoms, yet with great displacement of the fragments and drop-wrist contusion may be assumed, and if in addition there are great sensory disturbances with a punctum maximum a complete severance of the nerve is most likely.

Treatment should at first be expectant; but if the paralysis is

progressive, or if at the time of union it is stationary, operation is to be resorted to. Immediate nerve suture must be performed if the diagnosis of severed nerve is made.

Secondary palsies are due to compression of the nerve by the callus against the shaft, or included in the callus, or stretched out over it, in consequence of which the disturbances set in later than in the primary palsies. There may be combinations of primary and secondary palsies: the first effects due to contusion, the subsequent due to compression. Motor and sensory disturbances set in simultaneously in the secondary paralysis.

As secondary paralyses never recover spontaneously, operation is always indicated, and, as the onset of the paralysis is so insidious, operation should be timed early, yet late interference may prove beneficent.

Appended is a list of thirty-six primary and secondary paralyses.
—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 3.

III. Osteoplastic Intercondylar Amputation of the Thigh according to the Ssabanejeff-Abrashanow Method. By DR. H. HILGENREINER (Prague). Ssabanejeff's method is thus rendered by the author. An anterior flap is outlined extending one inch below the tuberosity, and a posterior flap shorter by one and one-half inches. The joint is opened from behind. The condyles of the femur are sawn across, and now a segment of bone to correspond with this surface is sawn out of the head of the tibia and left in contact with the anterior flap, which osteo-cutaneous flap is then turned back against the femur and sutured.

Abrashanow obtains his bone segment from the posterior half of the head of the tibia, the anterior flap being made shorter on this account than the posterior.

The advantages claimed for these methods are: (a) there is a primary closure of the medullary canal by a bony flap; (b) the supporting surface of the skin is free from any cicatrix; (c) the skin, bearing the weight and pressure of the stump, is in natural relation to the transplanted bone; (d) finally, the preservation of the tendinous

insertions of the muscles of the thigh is supposed to prevent in part an atrophy of the muscles.

Gritti's operation enters closest into competition with these methods. The author thinks the disadvantages of it are: that the size of the patella and the section of the femur vary so that the patella is given to dislocation; that the retained synovial bursa and membrane of the joint frequently give rise to trouble; and that the cicatrix resulting from the incision is in the pressure-line of the stump. The choice of an amputation in injuries of the leg are thus formulated. If there is sufficiently healthy skin, a high amputation of the leg is indicated; if not, and the head of the tibia is healthy, the Sabanejeff-Abrashanow method is in place; this requisite failing, Gritti's method is to be considered along-side of the transcondylar (Carden) or supracondylar (Stokes) methods.

Six of these intercondylar amputations were performed by Prof. Wölfler: four for extensive ulcerations of the leg, two for compound fracture of the leg. In this series one death was caused by amyloid disease; a few times there was marginal necrosis attributed to the use of Esmarch bandage or too tight a dressing; once the segment of bone was dislocated.—*Beiträge zur klinischen Chirurgie*, Band xxiv, Heft 3.

MARTIN W. WARE, New York.

ORTHOPÆDICS.

I. A Contribution to the Study of Tendoplasty. By DR. H. GOCHT (Würzburg). At Hoffa's clinic nineteen patients were subjected to this operation, their ages varying from nine months to twenty-four years. Twenty one times transplantation was performed, —for thirteen infantile paralyses, three traumatic paralyses, two cases of cerebral paralysis, and one congenital spastic paralysis.

Gocht divides the methods of grafting into active and passive. In the former a functioning tendon in part or wholly divided is attached to the tendon of a paralyzed muscle.

The plan of operation must be thoroughly predetermined, which necessitates an exact study of the range of function of the intact

muscle, and, furthermore, a careful electrical reaction has to be made to ascertain fine distinctions between totally and partially paralyzed muscles of a group, since it has been shown that the latter recover their normal range of function when their relations are bettered by preliminary operations on those antagonistic tendons which subject them to strain and tractions. If all this be accomplished, the incision can be small and limited to tendons, otherwise a larger incision is necessary to visually inspect the muscles to learn whether they are atrophied or not.

Accordingly, *rédressement* should precede all tendoplasty, aided, if necessary, by tenotomy, tendon shortening or lengthening. A primary union alone can give good results, wherefore a rigid asepsis is a *sine qua non*. To further this end silk was universally employed. The first plaster dressing was cut down after two weeks, and another applied to be left on for four weeks; the corrected positions subsequently are maintained by strapping with adhesive plaster, and active motions and massage kept up for some time. Passive motion is only indulged to the extent to outline the motion it is desired to be performed. The details practised in each case are rendered very minutely, and are worthy of perusal by those specially interested in this subject.—*Zeitschrift für Orthopädische Chirurgie*, Band vii, Heft 1.

MARTIN W. WARE, New York.

RECTUM AND ANUS.

I. The Amputation of Prolapse of the Rectum. By DR. TH. v. DEMBOWSKI (Wilna). At the last congress of the Deutsche Gesellschaft für Chirurgie in Berlin, Ludloff demonstrated that, according to the experiences of the Königsberg Surgical Clinic, the indications for amputation in cases of prolapse of the rectum could be much restricted. While it is true that many of these cases can be cured by bloodless operations, and others may be cured by means of colopexy, there yet remains a considerable number of cases in which operation cannot be avoided. Firstly, there are those cases in which the chronically prolapsed rectum is inflamed, ulcerated, and thickened, and in which reposition is impossible. Secondly, those in which the prolapse

is the result of a malignant tumor. In such cases the patients will usually be much debilitated, the slightest loss of blood being dangerous. Two years ago the author met with such a case; prolapse of the rectum occurring at every stool. On the prolapsed gut was situated a tumor, the size of the first, which bled on the slightest touch, apparently a villous carcinoma. It was evident that the only treatment that could be employed in such a case was amputation of the entire mass.

In order to avoid loss of blood, and at the same time prevent subsequent stricture formation, the following procedure was employed.

The prolapsed rectum was transfixed near its base with a needle twenty-five centimetres long and four millimetres thick. This was done in a direction from one tuber ischii to the other. The needle was caught with the second and third fingers of the right and left hands in the interior of the rectum, and the anterior and posterior rectal walls spread along the needle. The rectal walls thus stretched transversely were secured independently and solidly to the needle by means of two iron clasps about as long and thick as the needle, the one anterior and the other posterior to the needle. These were fastened to the needle by means of strong ligatures. The rectum was then cleansed and the prolapse amputated with a long sharp knife about one centimetre in front of the iron clasps. Continuous irrigation was employed. A clean cut surface resulted. The anterior slit in the peritoneum was carefully sutured. All visible vessels were ligated. The anterior clasp was slowly loosened and the remaining vessels ligated. The entire anterior half of the wound was then sutured. The same procedure was carried out in regard to the posterior half of the incision. The circular suture resulting was powdered with iodoform and reduced within the anus.

The entire operation was so clean and the loss of blood so slight, that the author highly recommends this slight modification.—*Centralblatt für Chirurgie*, 1899, xxxix, pp. 1059-1061.

III. The Extirpation of Cancer of the Rectum by the Abdomino-Perineal Route. By M. QUENU, Paris.

The author divides rectal carcinomata into three classes, according to the location,—low, middle, and high. For the first group he advocates the perineal route; for the third, the abdomino-perineal route. For the second group, Quènu formerly operated by the sacral route, Kraske's operation. Lately he has completely renounced this, as he claims that the rectum can be resected from the perineum for a distance of fifteen or sixteen centimetres. The rectum must be resected at least six or seven centimetres above the growth, so the perineal route is only applicable in those cases in which the upper boundary of the tumor lies within eight or ten centimetres of the anus. In all other cases the abdomino-perineal route is to be employed. By this method, while it is true that the patient is left with a permanent artificial anus in the iliac region, the prospect of radically removing all of the growth is much more favorable than by other methods. It is conceded that this operation is more formidable than others, but with modern operative technique this should not be an objection. There are two conditions which are essential for the success of the procedure, asepsis both during the operation and throughout the after treatment, and hæmostasis. To insure the latter, ligature of both internal iliacs is recommended.

Quènu proceeds as follows: The abdomen is opened in the median line with the patient in the pelvic position. The right internal iliac artery is exposed and ligated one centimetre below the bifurcation of the common iliac. Care must be taken to avoid the ureter. This may be avoided by incising the peritoneum somewhat internal to the vessels and then palpating the artery. The left internal iliac is then ligated. In order to reach this it is either necessary to incise the mesosigmoid overlying it and then incise the parietal peritoneum, or, in case of a long mesosigmoid, the flexure may be turned upward and the vessels approached directly. While ligating the vessels, enlarged glands are searched for and removed. Having protected the abdominal cavity against infection, the sigmoid flexure is divided between two strong silk ligatures. The cut edges are disinfected and wrapped in iodoform gauze. The upper end of the sigmoid is at once sutured in an incision in the left iliac region. The

ligature which closes its lumen is usually not removed until the third day. While an assistant puts the rectum and sigmoid upon the stretch by drawing it in the direction of the pubes, the mesorectum at either side is freed and the band which contains the hæmorrhoidal vessels ligated. This is felt by the finger passing downward from the promontory of the sacrum. The rectum is bluntly loosened from the sacrum as far in a downward direction as possible and the rectovesical or recto-uterine pouch incised at once, if possible. The rectum is wrapped in gauze and the abdominal wound closed. The bowel is loosened completely from below and removed. The resulting cavity is tamponed and the skin wound partly sutured.

The author claims for this method, certainty of asepsis, radical removal of all affected tissue, and consequently better prospects for permanent cure, rapid recovery after the operation, and the absence of shock.—*Bulletin et Mémoires de la Société de Chirurgie de Paris*, xxiv, 706.

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